Jusson

7, Cavendish Avenue Cambridge England

9 October 1977

Dear Harriet:

Forgive my delay in responding to the materials you sent me so generously: when I got back here after New York, Boston, and a welcome few days of vacation, we found ourselves moving house. The last pages of my book are being written here, in what was Paul Dirac's study. The spirits, or rather anti-spirits, of the place seem to suit me, for the work has been going well.

Lederberg's "Reply to Stent" and your joint article for Daedalus, now that I have read them attentively, are fascinating and helpful. May I touch on a couple of points that caught my eye? Your covering note speaks of the entry of bacteria into the "animal kingdom"--well, at least into Mendel's realm. I have outlined that process myself, to come up with a deliberately simplified framework: André Lwoff's work in the late 1930s (mentioned by Lederberg but only in a footnote about Dubos' book), both in its own right and for its influence on Jacques Monod; Luria's demonstration with mathematics by Delbrück of the mutational, and therefore genetic, character of bacterial adaptation, the paper written in 1943; the independent demonstration by slightly different means of exactly the same point, a few months later but in necessary ignorance of Luria's and Delbrück's work, by Monod in occupied Paris; Avery's work both in its own right and as the direct inspiration for Chargaff and (thank you!) Lederberg. As I told you on the 'phone in August, Delbrück read the celebrated letter from Avery to his brother Roy on the day that Roy received it, for they were both at Vanderbilt. Lederberg mentions the work by Boivin that nobody could reproduce, purporting to show transformation effects in E. coli: it was Luria himself who first pointed out Boivin's report to Avery, an incident that Luria mentioned to me in an interview, as evidence of the constant close contact between members of the phage group and Avery. Those interviews with Delbrück and Luria happened to take place shortly after the appearance of Gunther Stent's article in Scientific American, and it's interesting that both men were in irritated disagreement with Stent's idea. However, Lederberg's "Reply" is the best demolition of the idea that I've encountered.

To my mind, though, the demonstration of the genetical properties of bacteria was but the moiety of a larger change of conception that was going on in the same years—about which I won't write in detail here, because I'm just completing a revision of that part of the book, and want to think it through formally once more. I would offer to send you a copy of that chapter when it's finished, but as an

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amateur already vividly aware that I've trespassed inadvertently upon your time and precincts I hesitate to press manuscript upon you.

When will the piece in <u>Daedalus</u> appear?

All best, Horne Judson